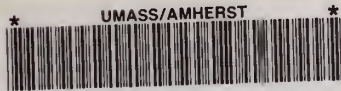


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## *"The Commute" Forum's Challenges for the Region*

Proceedings of "The Commute", A Forum for MetroPlan 2000, February 1, 1989

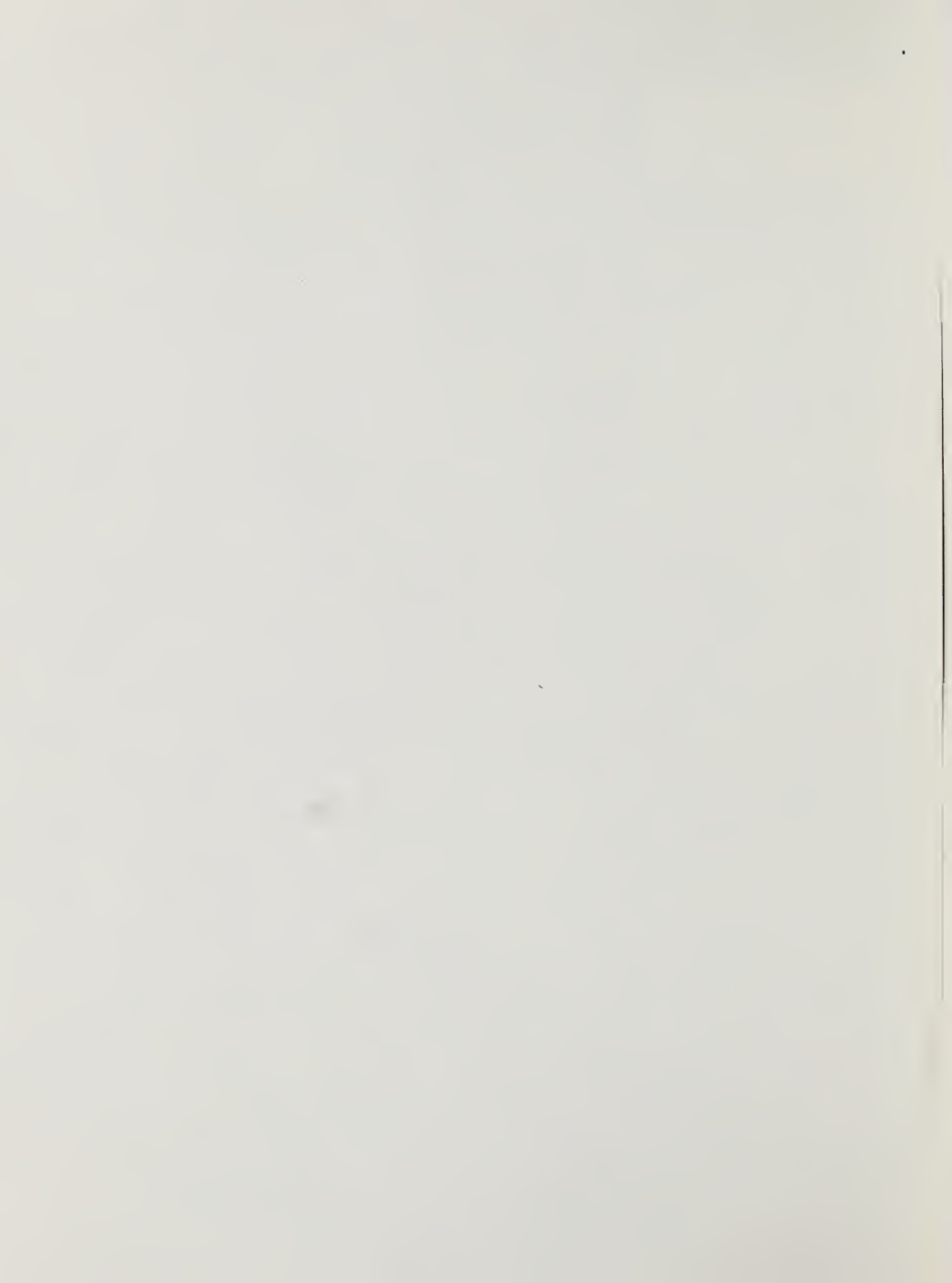
***MetroPlan 2000***

REGIONAL PLAN FOR THE BOSTON METROPOLITAN AREA



**Metropolitan Area  
Planning Council**  
60 Temple Place  
Boston, MA 02111

894/456



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## Executive Summary

MAPC's Commute Forum was unlike any other transportation conference for our region. Nearly 200 people attended the conference--a cross-section of transportation professionals including state legislators, local officials, community planners, private transportation consultants and academics, and also representatives from CARAVAN, the MBTA and Advisory Board, the MDPW, Massport, Boston area Chambers of Commerce, AAA, the JRTC, the Massachusetts Turnpike Authority, EOTC, FHWA and the Boston Transportation Department. In addition, a steering committee comprised of more than 35 individuals representing 30 different interests assisted in charting the conference direction.

The third of MAPC's MetroPlan 2000 seminar series, this forum asked local officials to consider their role in addressing traffic congestion in our region and to create a vision for future mobility. The consensus of the steering committee and the forum was that we must change the way we live and the way we do business. That means fundamental changes in land use decisions - and indicates a great deal of responsibility for local officials.

Everyone recognized the crisis and spoke from his or her perspective. Many were just as clear as the Weston planning board member who said, "We live between the herd and the trough, and we get trampled!"

Following are six challenges for MAPC and the region put forward by Frank Baxter, MAPC's president.

1. The last major regional transportation plan was prepared in the 1970s. Since then a number of conditions have changed. It is time for a comprehensive review of the Boston Metropolitan Transportation Plan to identify our resources and to plan for the future.
2. We must consider ways to cap the total number of miles of travel in the Boston Metropolitan Area at 1989 levels and, if possible, reduce travel by a certain percentage each year. For example, if each of us were to set a goal of reducing the number of miles we drove our automobile each year by just 1%, that would add up to 6% in the year 1995 and 21% by the year 2010.
3. We are predicting a need for more than 46,000 parking spaces in the region: 35,000 at MBTA facilities, and 11,000 park-and-ride lots for carpool, vanpool and commuter bus activities. We must support the efforts of the MBTA to create new parking facilities to serve expanding transit service and ridership. Further, we should commit ourselves to finding 2,000 new fringe parking spaces each year for the next five years to actively promote ridesharing.
4. We must work with the MBTA to increase system-wide transit ridership, especially suburban transit, by 5% per year for each of the next five years, thereby boosting transit ridership by 25% by the year 1994.



5. All of us should consider proposals in MetroPlan 2000 which allow communities to work together to reduce travel demand through planning and zoning, thus changing land use patterns. This would include locating residential and employment centers closer together, creating transportation centers to allow easy access to all types of transportation, instituting trip reduction ordinances which provide incentives to developers to reduce the number of parking spaces, and other land use strategies.
6. Finally, if there is going to be an increase in the gasoline tax, the revenue should be reserved for transportation improvements, and a portion of the increase be used to increase Chapter 90 funds to cities and towns to improve the conditions of local streets and roads.

The speakers and panels echoed these issues throughout the day and showed a high level of commitment to the strategies in these six challenges.



## Challenge #1: Review the Boston Metropolitan Transportation Plan

Demographic and environmental changes have laid the groundwork for a renewed transportation plan, last updated in the late 1970s. Over the past 10 years, rapid economic growth and regional prosperity have been accompanied by serious transportation consequences. Although increased traffic reveals an economically vibrant region--in metropolitan Boston the commuting situation is bad and getting worse. Consider these facts:

- o Demands on much of our region's network of 10,357 miles of roads are greater than their design capacity. Between 1977 and 1987, traffic has grown alarmingly at nearly 4 percent per year (see Figure 1).
- o Traffic flows, to and from Boston, criss-cross traffic flows to and from suburban work locations. Figure 2 illustrates stretches of urban and suburban roadways that are highly congested.

Bruce Campbell, President of Bruce Campbell and Associates and a former MDPW Commissioner, addressed the need for a comprehensive plan. "We are doing only one-fourth of what we can do to improve mobility. A 10-year transportation plan for the state is needed--a plan that is 20 years late," he said.

"An update of the MPO transportation plan would be a major undertaking. We must examine all avenues, including developing broader growth management plans which link transportation and land use planning, and employing a bottom-up, top-down planning approach," says Campbell. Frequently, there is a lack of coordination and communication between planners who plan and engineers who are responsible for implementing projects. This bottom-up approach would co-exist with direction from the Executive Office of Transportation and Construction thus ensuring a top-down mechanism of checks and balances.

The rise of suburban employment centers accelerated the inability of roads to handle increased traffic. Many towns, like Bedford, which has a population of 12,000, swells to 20,000 during the work week. As a result, traffic outbound on Route 2 exceeds inbound traffic. In Lowell, traffic on Route 38 grew 20 percent between 1987-1988; similar conditions exist on Route 60 through Belmont and Center Street in Danvers.

"Massachusetts is far behind other regions in the nation in introducing legislation to force local governments to enact better land use regulations," said Campbell. For example, Portland, Oregon has mandated land use programs for 43 communities - subject to approval by a regional review board.

Jim Walsh, Division Administrator of the Federal Highway Administration (FHWA) advocates the immediate implementation of short-term transportation planning strategies--transportation demand management (TDM), transportation systems management (TSM) and capacity additions where feasible--underscored by long-term planning. He cautions "if you don't know where you are going don't be surprised when you get there."





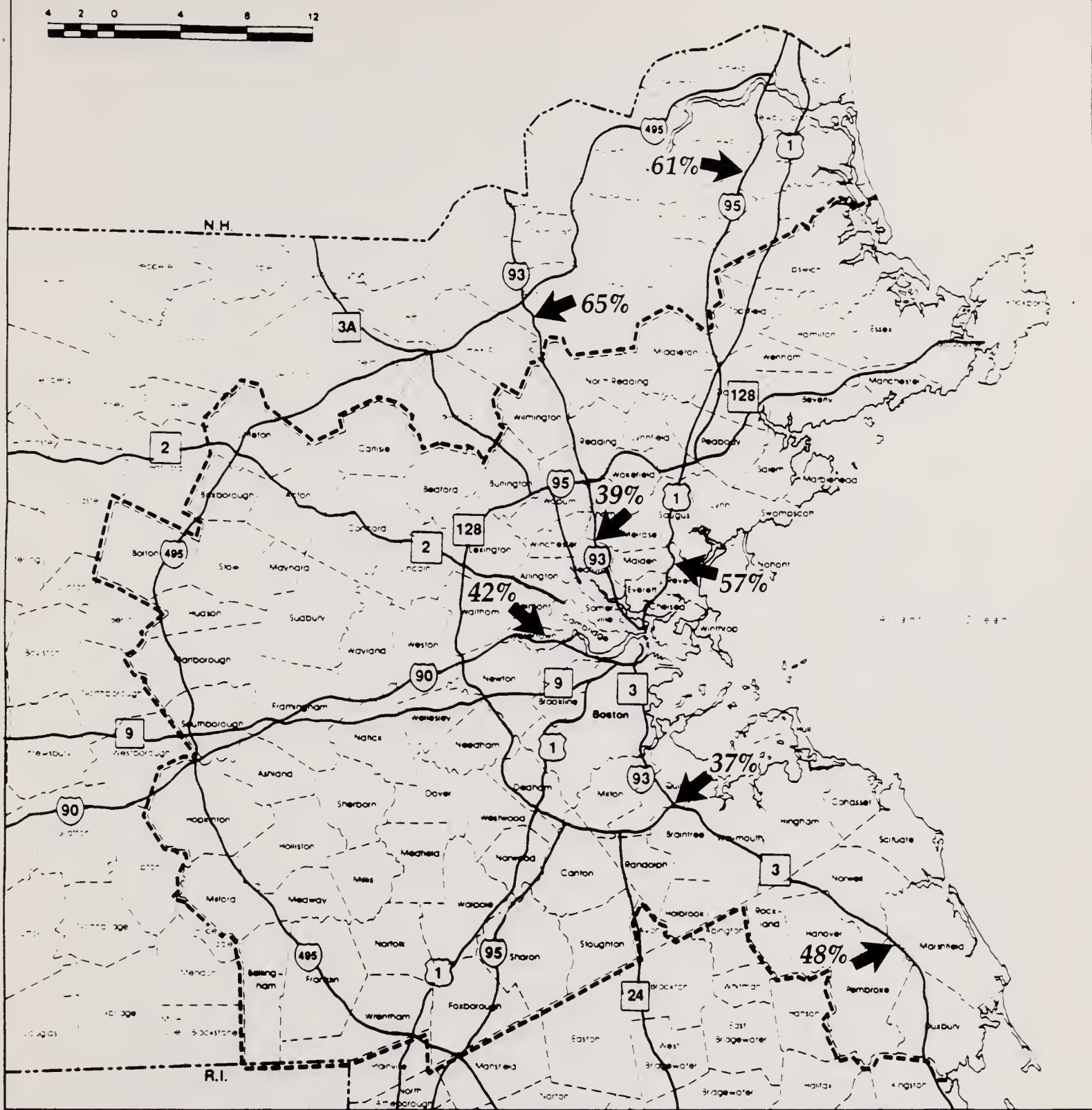


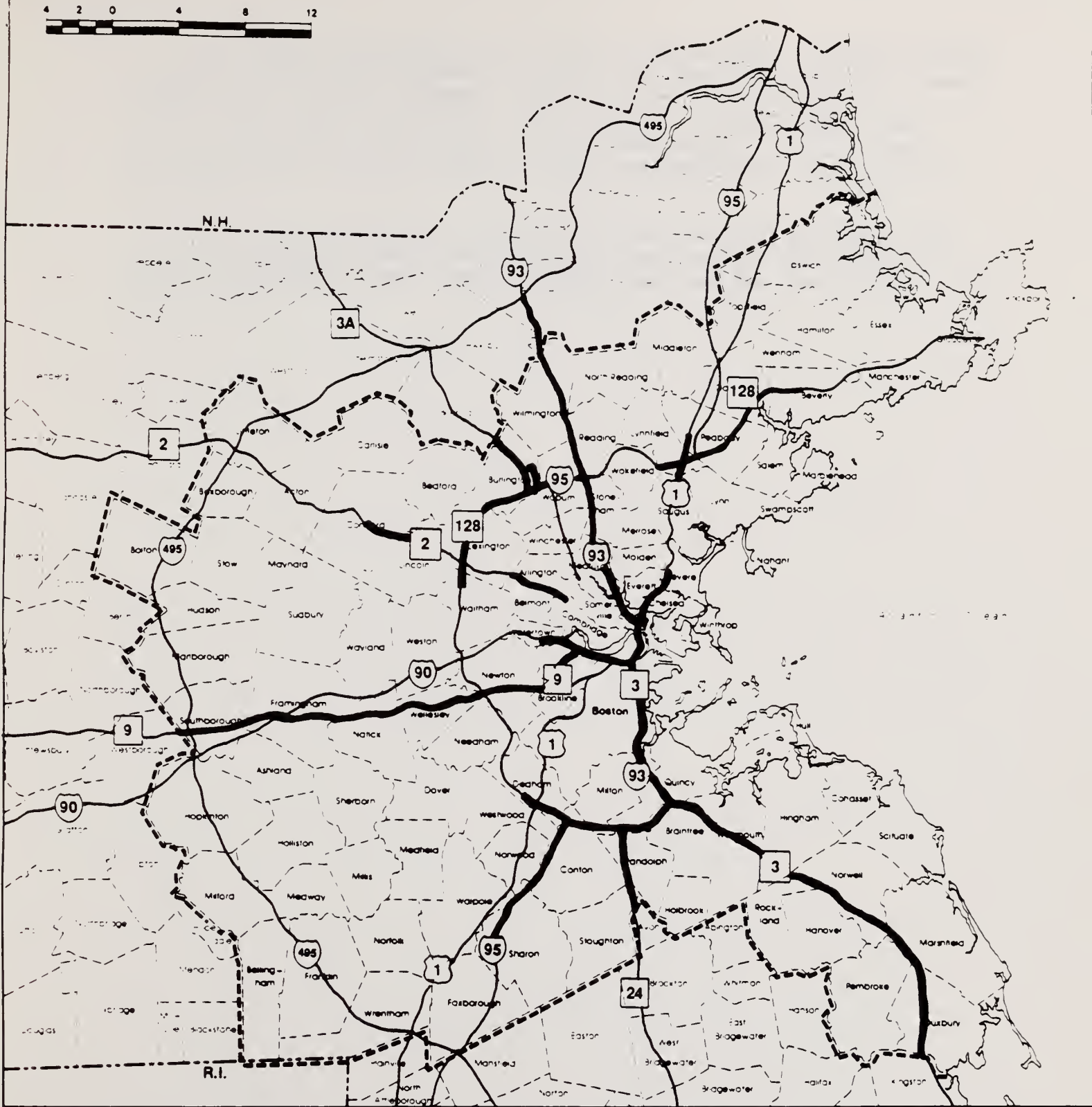
Figure 1. Traffic Growth in Metropolitan Boston ( 1977-1978 )

Between 1977 and 1987 , traffic growth on our region's major roadways has grown at a steady and alarming rate . Evidenced by chronic traffic , Route 128 and the Central Artery especially carry far more vehicles than their design capacities .

Source : Federal Highway Administration , *Strategies to Address Traffic Congestion in the Boston Metropolitan Area* , November , 1988







**Figure 2. Congested Roadways**

**—** Areas in which transportation infrastructure is already overwhelmed.

Source : A Civic Design Agenda and MAPC files



Participants echoed that it is time to take the lead. "We must assume a proactive role when problems arise and when innovative solutions present themselves," says Paul Lambert, Chairman of the Joint Regional Transportation Committee (JRTC). Pet projects which Mr. Lambert would like to see in the near future include a road railer, a vehicle that travels on both roads and fixed rail, and circumferential transit inside Route 128.

An updated transportation plan which links land use, employment and zoning can address concerns in a comprehensive fashion. Dick Doyle, Regional Manager for UMTA, commented that "the time has come for Boston to take action."



## Challenge #2: Cap the Number of Vehicle Miles Travelled

The key to a more successful commute is to move people rather than automobiles as much as possible--Paul Lambert, Chairman, JRTC.

Boston is blessed with a good radial public transit system which provides suburb to city commuters with a panoply of commuting options. However, suburban residents who travel to a suburban work location suburban transit are not as fortunate.

The once-dominant commute from suburb to central city has taken a back seat to a suburb-to-suburb commuting pattern. In metropolitan Boston, the suburbs' share of the total office market rocketed from 20% in 1979 to 60% in 1986, an average gain of 5% per year (see Figure 3). In theory, this suburbanization of jobs affords a shorter work trip. Unfortunately, new suburban developments and the additional traffic that is created cannot be supported by the local transportation infrastructure.

Since the 1950s, new developments have been overlayed onto a 19th century radial street system which is oriented in and out of Boston. These roads usually make it difficult to get from one part of town to another without passing through the town center.

The traditional response to transportation congestion has been a supply side approach--widening highways or arterial streets or increasing the capacity of public transportation facilities. In the 1980s however, exorbitant highway right-of-way and construction costs along with limited available land, make it difficult to solve our suburban traffic problem by building additional roadway capacity. Says Bob Bowyer, Lexington Town Planner, "Today, dispersed journey-to-work travel patterns must look to options on the demand side."

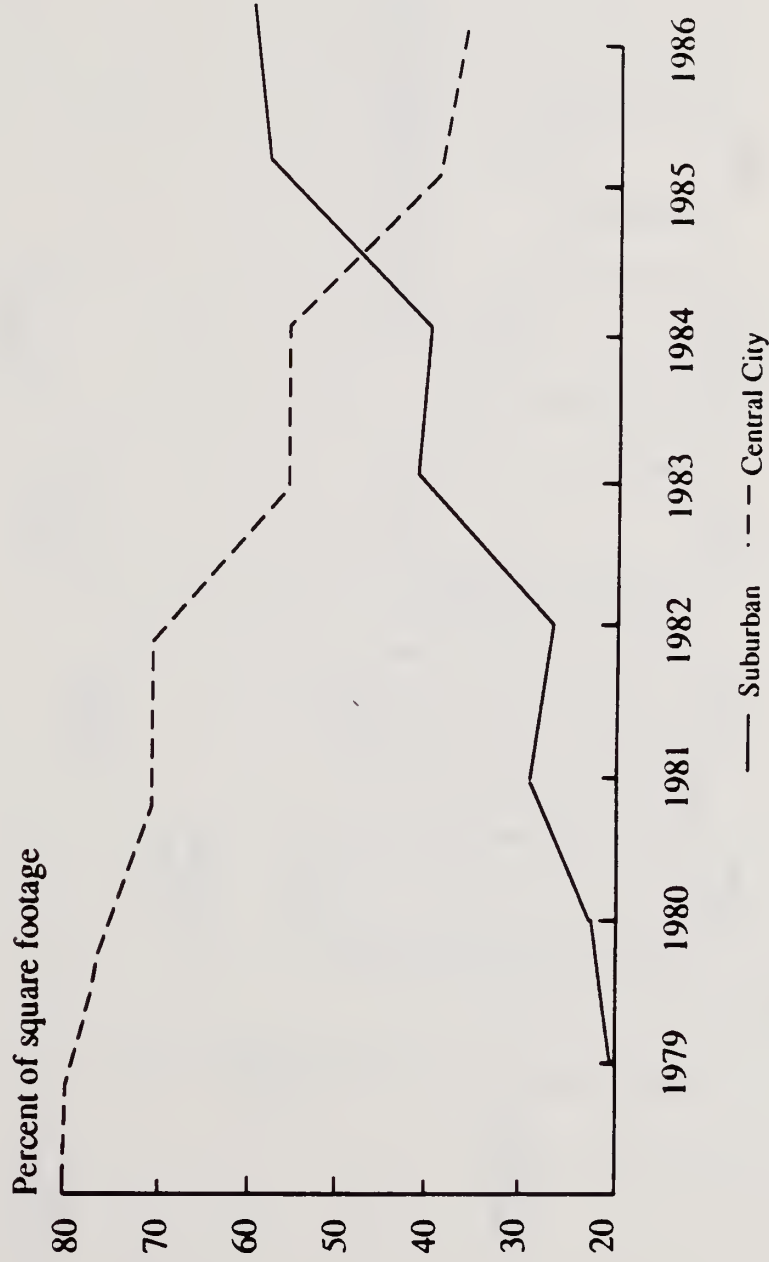
Trip management programs can provide incentives for individuals to change their work trip habits from driving alone to commuting by public transportation or ridesharing. Unfortunately, this is a difficult task given America's love for and reliance on the automobile.

JRTC Chairman Paul Lambert laments that "New thinking is badly needed to accommodate suburban transit." "Can we reverse the following trends?"

- o vehicle miles travelled, a measure of the cumulative distance traveled by all vehicles on a study area roadway system in the MAPC region totalled 769 million in 1988
- o the number of cars entering Boston continues to increase (see Figure 4)
- o auto occupancy, the total number of riders per automobile, is 1.3 today down from 1.6 in the late 1960s (see Figure 4)
- o regionwide traffic is growing at an average rate of 3.9 percent, higher than the national average of roughly 2 percent



## Comparison of Office Growth in Metropolitan Boston



Today more than 57% of all metropolitan jobs nationwide are located in the suburbs. In metropolitan Boston 60% of all office space in the region is found in the suburbs. Can public transit serve the suburb to suburb commuter?

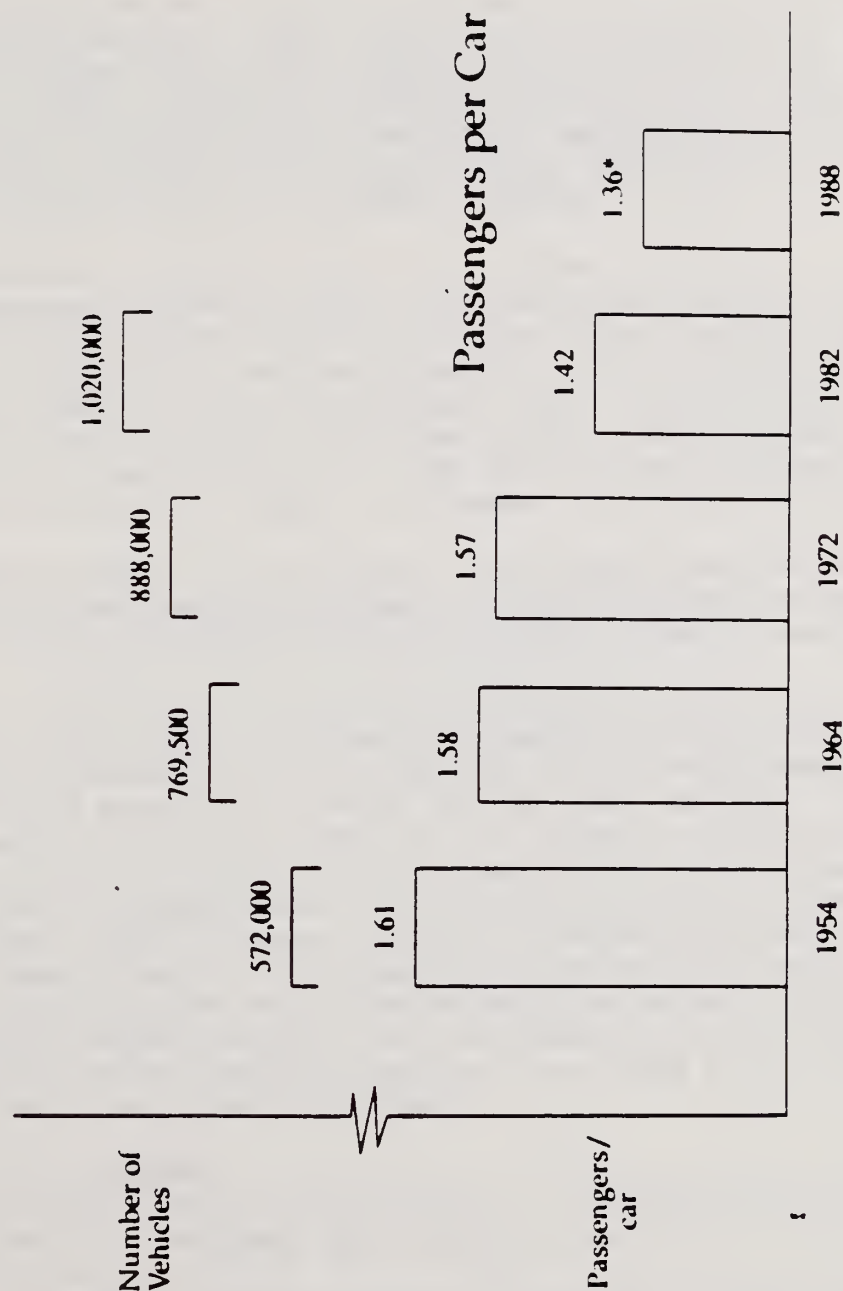
Source: U.S. Department of Transportation, *America's Suburban Centers*, January 1988





Figure 4

## Vehicles Crossing Boston Cordon Line



Between 1954 and 1988, the number of vehicles entering Boston has doubled while at the same time vehicle occupancy has fallen significantly. Consider the impact this has on travel delay and air quality.

\* Based on an isolated Route 9 traffic count, Summer 1988

Source: CTPS, *Transportation Facts, 1983* MAPC



Between 1984 and 2005, National Urban Freeway Congestion Statistics estimates that nationwide, vehicle miles of travel will grow by 50%. Consequently, traffic delays and excess fuel consumption are projected to increase 450 and 430 percent respectively. In the metropolitan Boston region, where traffic growth has exceeded the national average, the problem could be even more acute (see Figure 5). Is it possible that congestion and air quality could become 800 or 900 percent worse than it is today?

Traffic congestion was less of a problem 10 years ago and fewer commuter options existed. Today, the majority of Americans do not live and work in the same community. To get to suburban job Y from suburban residence X in 1980, 65 percent of commuters drove alone to work. However, suburban commuters, with the help of employers, and in some cases developers, have a number of commuting options that improve the daily commute for everyone using our regional roadways.

Trip Management programs come in many shapes and sizes. Employer-sponsored programs include: car pooling and van pooling programs, variable work hours, preferential parking and other incentive offerings, subsidized transit passes, and participation in transportation management organizations (TMOs). On the development side, trip reduction zoning is a new strategy which promises to limit the traffic impacts of new development. This ordinance can be used to establish standards that reduce vehicle trips along routes to proposed and existing developments.

As stated earlier, one of the major challenges facing the region is to consider ways to cap the total number of travel miles in the Boston metropolitan region at 1989 levels and to reduce travel by one percent each year.

"To achieve that goal," stressed Tom Humphrey of the Center for Transportation Studies at MIT, "a concerted effort among communities and state agencies is needed--a piecemeal approach will not work." Donna Smallwood, Manager of Commuter Mobility for CARAVAN, pointed out that local officials are not alone in the congestion game--the private sector is also involved. CARAVAN coordinates programs for John Hancock Insurance Company, Talbots, UNICO, Windsor Village, and Hewlett Packard. Says Smallwood, "Commuter mobility programs are games at which everyone who plays wins--both commuter and corporate goals can be met at the same time. Changing commuter behavior will not happen quickly--it is a long-term education process which employers must make a high priority and continue to sell over a period of time."

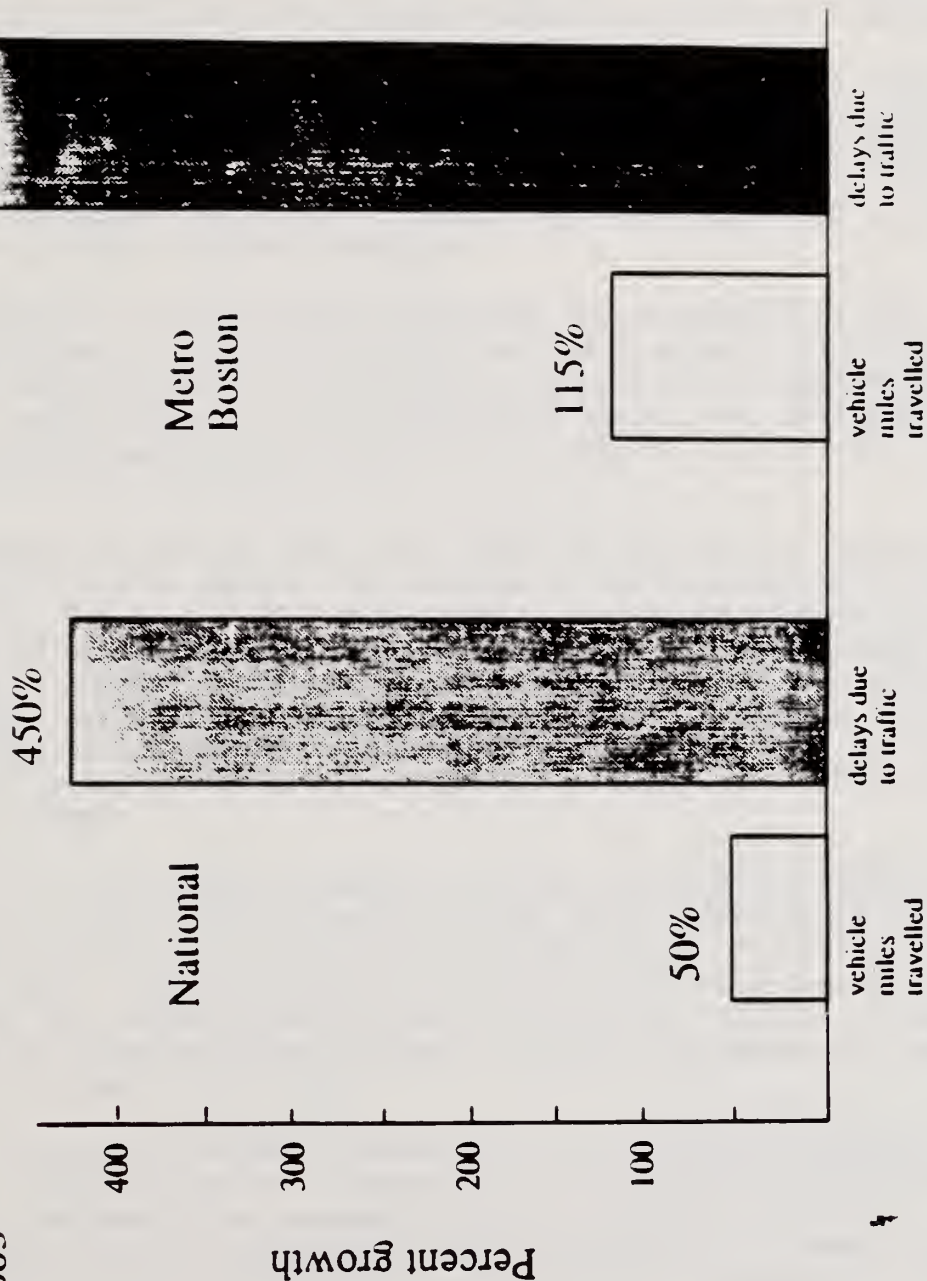
With the help of CARAVAN:

- the car/vanpool rate at John Hancock is 7 times higher than the normal rate for downtown; 75% of garage occupants are car/vanpool participants
- UNICO, a contract cleaning company, offers shuttle bus service all along Route 128, to transport employees from peripheral parking locations, many near transit stops, to the workplace
- shuttle buses operate to Alewife from Windsor Village, a residential development in Waltham



Figure 5

# Urban Freeway Congestion 1984-2005



Given an average growth rate of 2.6% over the past 10 years, nationally, vehicle miles traveled is expected to increase to 50% from 1984 to 2005. Consequently delays due to traffic will increase by 450%. In metropolitan Boston over that same period, given a traffic growth rate as high as 3.9%, vehicle miles travelled will increase 115%. Is it possible that traffic delay could be greater than the national 450%?

Source: *Transport, MAPC, Spring 1988*  
 Jeffrey A. Lindley, "A Methodology For Quantifying Freeway Congestion," *TRB Annual Meeting, Washington, DC January 1987*





-flexible work hours at Hewlett Packard on Route 128 enable more than 65 of its employees to work outside of peak commuting hours (see Figure 6).

Working with the City of Boston and its Access Plan Policy, CARAVAN is beefing up the marketing of transportation alternatives. To control the number of private parking spaces in the Central Business District, the Access Plan affects new development by requiring that developers propose mitigation to deal with the traffic impacts. CARAVAN can play an instrumental role in coordinating ridesharing and transit opportunities.

Trip management programs may also be implemented by a transportation management organization. These are private non-profit corporations which address transportation issues with the public sector, and can be especially effective in suburban areas poorly served by transit. Figure 7 shows employment densities of communities along Route 128 - where potential exists for TMO formation.

Companies in the Waltham area under the leadership of GTE Laboratories, Polaroid Corporation and the Prospect Hill office Park, have banded together to tackle the area's transportation problems along Route 128. Twelve companies and 14,000 people strong, Ms. Smallwood stressed that these organizations recognize the need for both private-sector participation and dollars.

Another burgeoning TMO is the Medical Area Service Corporation (MASCO) - a consortium of medical institutions in the Longwood area of Boston. Initially begun as 2,000 remote parking spaces and a shuttle bus service in the 1970s, the program has evolved to address issues ranging from improving traffic signals to areawide signage. Larry Christiansen, Vice President of Parking and Transit, stressed that a TMO can serve the interests of both member institutions and commuters at large. Both groups benefit by the provision of transportation services which allow for an easier commute.

A trip reduction ordinance is another mechanism to reduce vehicle miles travelled. Such an ordinance has been implemented in the City of Cambridge thanks in large part to Richard Easler, Transportation Coordinator. The ordinance will serve to limit trip generation by between 25% and 75%, depending on proximity to transit stations. Through an incentive zoning proposal and with the help of CARAVAN, businesses are working to meet restrictions.

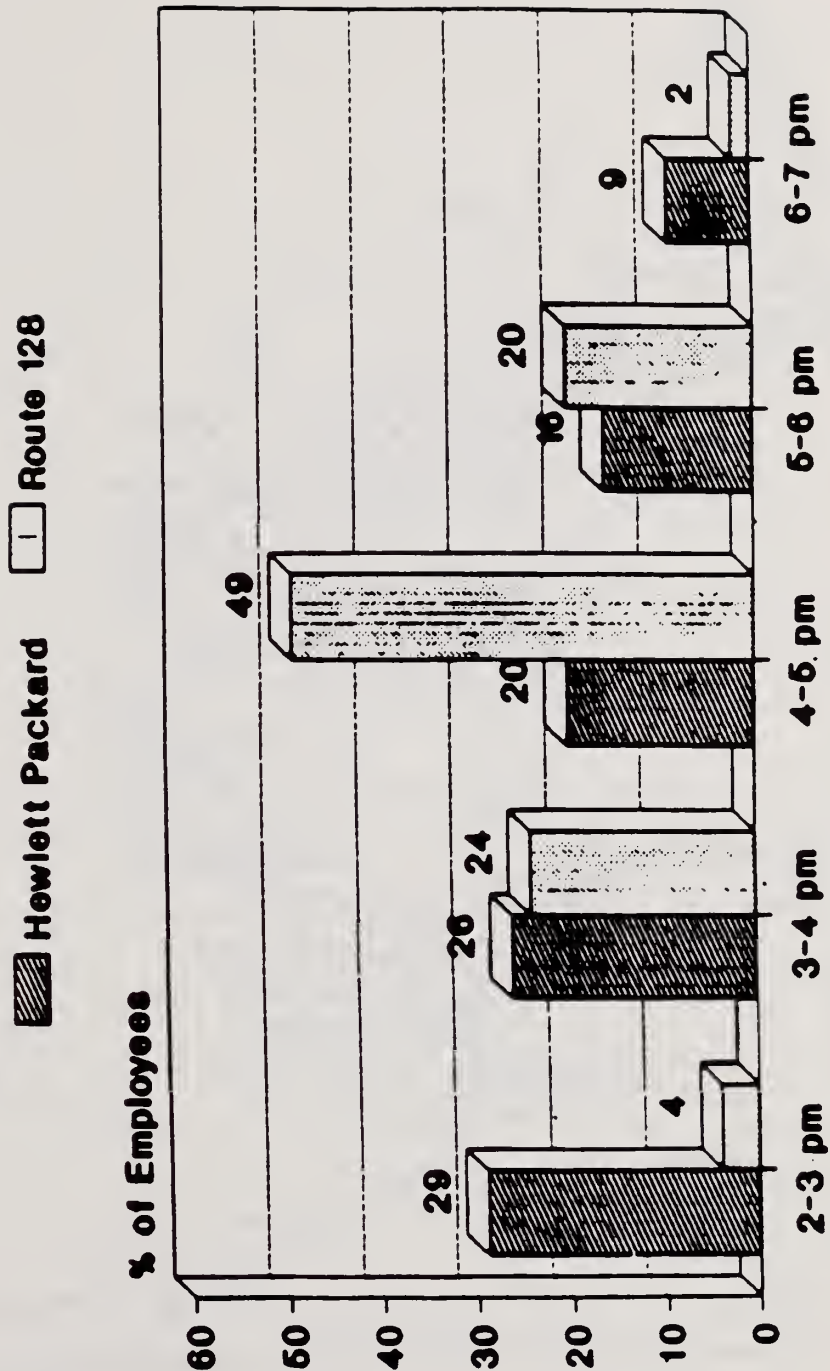
Private involvement is necessary to help solve the region's transportation problems. Stephen Chait, President of the Association of Public Transportation, suggests that the Executive Office of Transportation and Construction set a transportation agenda which looks at TMOs, trip reduction ordinances and other trip management strategies.





Figure 6

# Trip Management: A Flextime Program



Source: CARAVAN

Falling under the broad strategy of Trip Management, flextime is a method by which peak hour traffic can be reduced. At Hewlett Packard, a high percentage of employees leave work before the evening rush hour begins!



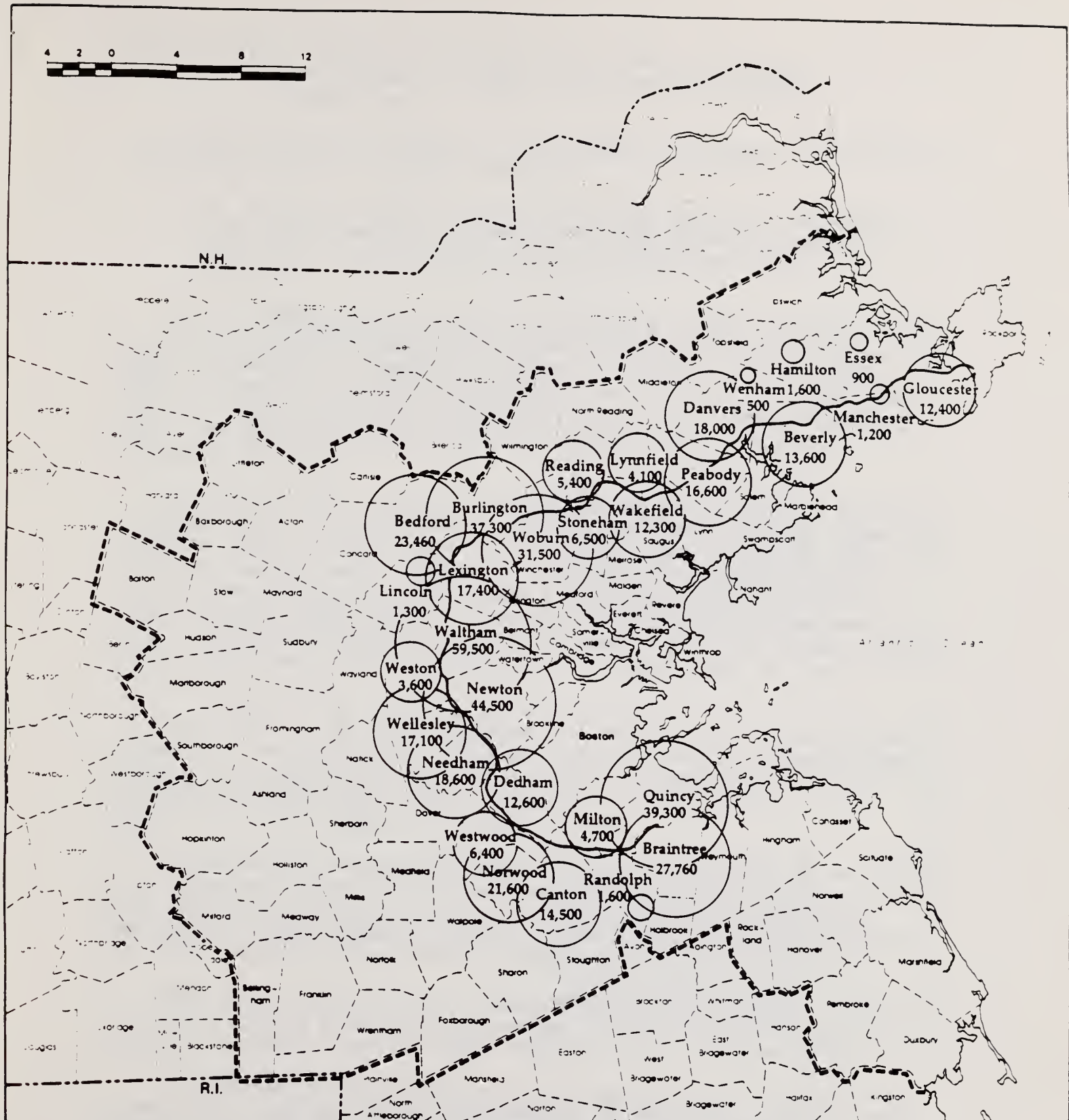


Figure 7. Good Potential for TMOs.

Employment in the communities along Route 128 ( 1984 DES Data )

Given very high employment densities in communities lying along Route 128 the potential exists for collective efforts on the part of employers. A model TMO is the Waltham 128 Council - a very effective cooperative effort in the Greater Waltham area .

Source : MAPC , *Transreport* , 1986



Challenge #3: Find 2,000 new fringe parking spaces each year for the next five years and to actively promote ridesharing.

An MAPC survey distributed at "The Commute" conference, identified two issues which threaten regional mobility:

1. an absence and under utilization of mass transit alternatives
2. the lack of parking management strategy--both restrictions on parking in congested areas, and for siting new fringe parking.

Both of these come as no surprise, given the current parking situation in the city of Boston and suburban areas. Demand for parking now exceeds supply everywhere. If capacity increases to transit are to be fully effective, new fringe parking spaces must be sited. It is argued that transit ridership is being constrained by the lack of commuter parking facilities and thus contributing to increased traffic congestion throughout the region.

Between 1975 and 1986 more than 500,000 job were created in the City of Boston alone, while the number of public off-street parking spaces has remained fixed at slightly more than 35,000--due to a citywide freeze on off-street public spaces instituted in 1974 for air quality reasons. Although the supply of private spaces has increased roughly 18 percent, Richard Dimino, Commissioner of the Boston Transportation Department, says, "efforts are underway to limit the number of private spaces created and to extend the existing parking freeze to East Boston and the Fort Point Channel areas."

Projections to the year 2010 show that vehicle trips to the city will increase at least 14 percent. Boston, home to 1 out of 10 jobs in New England, will continue to fuel the regional economy and draw workers, not only from the MAPC region within Route 495, but from central Massachusetts, New Hampshire and Rhode Island.

Transportation planners and public officials agree that the only form of transportation that can provide a sufficient quality of access to the CBD, without destroying it, is public transit. State Representative Marie-Louise Kehoe comments "We must provide for well-planned access to our public transit system and that means more fringe parking."

Additional fringe parking at commuter rail at rapid transit lots, and at carpool staging areas, will encourage commuters to choose transit or other high occupancy vehicle modes instead of the private automobile.

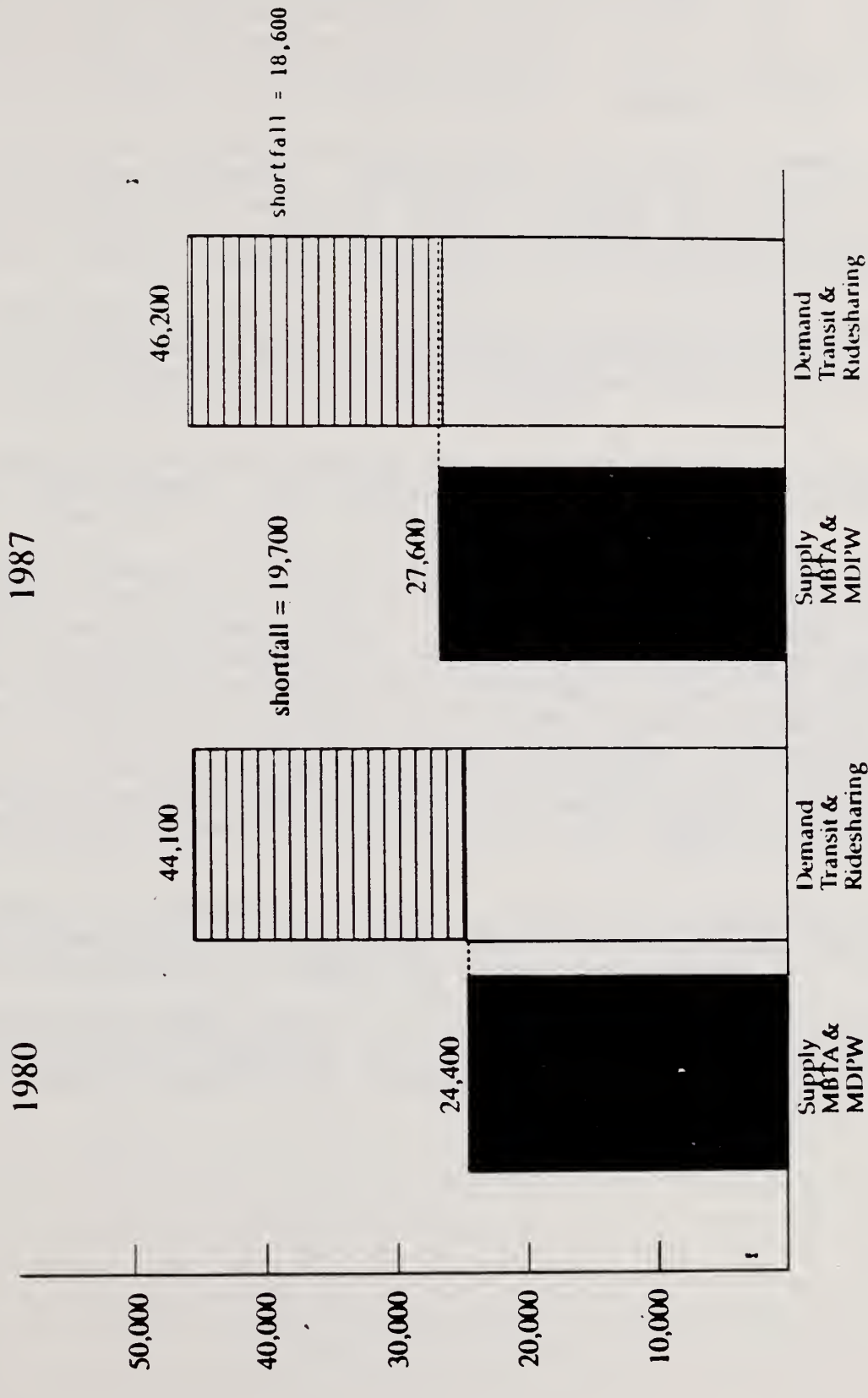
In 1987, MAPC estimated fringe parking demand at rapid transit and commuter rail stations to be approximately 36,000 spaces. Given a total parking supply of approximately 25,000 between MBTA and MDPW lots, a parking shortage of 11,000 spaces was calculated. If parking demand for carpooling is factored in, the shortfall grows to almost 20,000 spaces (see Figure 8).





Figure 8

# Fringe Parking: Transit and Ridesharing



Additional capacity at park-and-ride lots encourages public transit and ridesharing usage. In 1987, MAPC estimated total transit and ridesharing (carpooling, vanpooling, bus) parking demand to be 46,200 spaces, a shortfall of 18,600 spaces..

Source: MAPC, soon to be published fringe parking study





In 1989, the city of Boston estimated unmet commuter rail and rapid transit parking demand to be between 12,000 and 16,000 spaces. On commuter rail alone, the Central Transportation Planning Staff (CTPS) estimates that fringe parking demand by 2010 will grow to more than 32,000 spaces (includes Old Colony Line restoration). Given an existing supply of roughly 15,000 spaces, parking shortfall will approach 17,000.

Efforts are underway to expand capacity at a number of commuter rail and rapid transit stations. The MBTA has a construction plan that would create between 15,000 and 40,000 spaces at commuter rail and rapid transit stations in suburban communities by 2010. The MBTA anticipates that between 15,000 and 20,000 of these spaces will be constructed by 1995.

Recognizing the difficulty in siting fringe parking in the suburbs, the city of Boston and MAPC have recommended creating a task force as part of a comprehensive commuter park-and-ride program--whose mission would be to work with communities in the siting process.

Communities have often opposed fringe parking facilities because of local traffic impacts. Host communities often feel that their streets cannot support the increased traffic volumes.

Steve Polechronis, an MBTA Project Manager, suggests that we consider the benefits of a proposed parking facility. "Many local residents work in Boston and additional commuter rail and rapid transit parking would benefit those Boston workers who currently drive to the city because commuter parking is unavailable," said Polechronis. Commissioner Rick Dimino asks opponents to recognize the economic prosperity that the central city brings to the entire metropolitan region. The Commissioner cautions, "Unless we act now, we may face a situation where, due to a violation of federally set air quality attainment standards, communities may be forced to accept fringe parking facilities, regardless of their plausible opposition."

MAPC has introduced a bill to the legislature to establish a fringe parking task force and a framework to identify costs and benefits, and to negotiate agreements with communities in the siting process.

MAPC supports MBTA efforts to create new parking to serve expanding transit service and ridership. As a liaison between the MBTA and our member communities, MAPC can be instrumental in achieving a regional goal.



Challenge #4: To increase transit ridership, especially suburban transit, by 5% each year for the next five years

Public transportation improvements in the Boston metropolitan area resulted in steady ridership increases in the 1980s. Since 1982 daily ridership on commuter rail has increased almost 100 percent (see Figure 9) and ridership on rapid transit and light rail grew more than 30 percent.

MBTA commuter boat service has also proven to be an enormous success. Annual ridership has increased from 20,000 in 1982 to 600,000 in 1988 (see Figure 10); today, more than 2,500 riders commute daily by boat from Hingham to Boston. Summertime ridership in 1988 reached 3,000 per day. "This is the equivalent of one lane of traffic on the Southeast Expressway during rush hour," said Martha Reardon, of the Harbor Consultancy International.

Restoration of commuter service to the South Shore via three branches of the Old Colony Line will accommodate more than 13,000 daily riders. Feasibility studies to extend commuter rail to Newburyport, Milford, Fall River/New Bedford and Worcester are underway. The MBTA estimates that by 2010 daily one-way ridership will exceed 65,000, up 103 percent from 1988.

Extensions to rapid transit are also being studied. Future plans may include extensions of the Red and Orange Lines to Route 128, the Blue Line to Lynn, and the Green Line from Lechmere to Medford and from Kenmore to Brighton.

Our Commute Forum survey revealed that 90 percent of those polled support upgrading the rail system, 83 percent favor extending the rail system, and 70 percent advocate expanding bus route coverage.

Anne Larner, Executive Director of the MBTA Advisory Board, reports that there is an excess capacity of more than 40,000 passenger spaces on the MBTA rapid transit system, enough capacity to permit an upward shift in the number and percentage of commuters using public transit to Boston during peak hour. She estimates that an additional 13,000 and 15,000 more passengers could be transported on the Orange and Blue Lines respectively. In contrast, commuter rail and commuter boat are at capacity.

Larner emphasized that political support for the purchase of additional capital is essential if improvements and expansions are to be realized. Recent fare increases on rapid transit and commuter rail will have users financing a greater portion of the service; however, additional fiscal commitment by the state must continue.

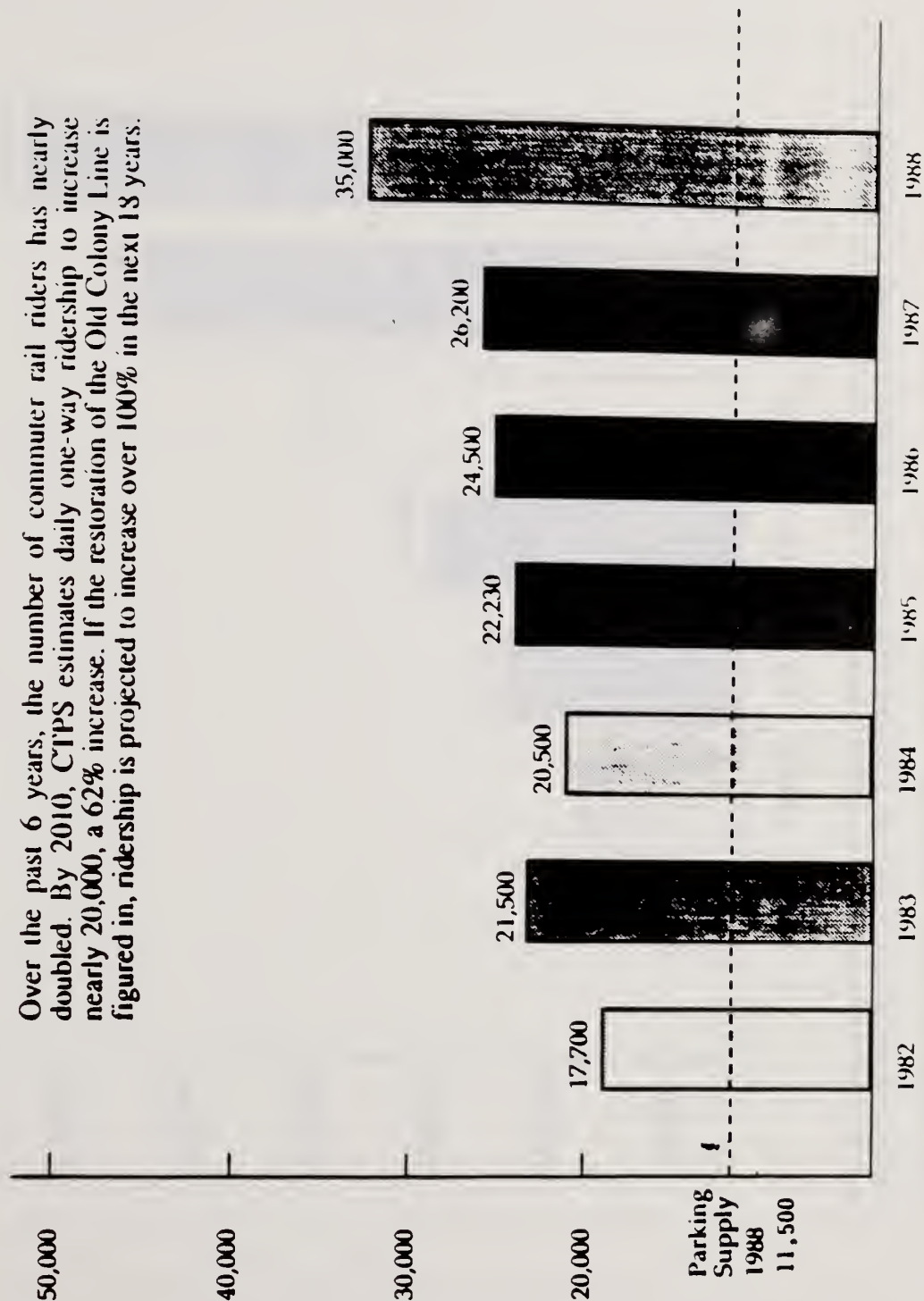
An MBTA study of the feasibility for circumferential transit service within a five mile radius outside of Boston is underway. According to Peter Calcaterra, Project Manager of the Development and Construction



Figure 9

## Average Commuter Rail Daily Ridership

Over the past 6 years, the number of commuter rail riders has nearly doubled. By 2010, CTPS estimates daily one-way ridership to increase nearly 20,000, a 62% increase. If the restoration of the Old Colony Line is figured in, ridership is projected to increase over 100% in the next 18 years.



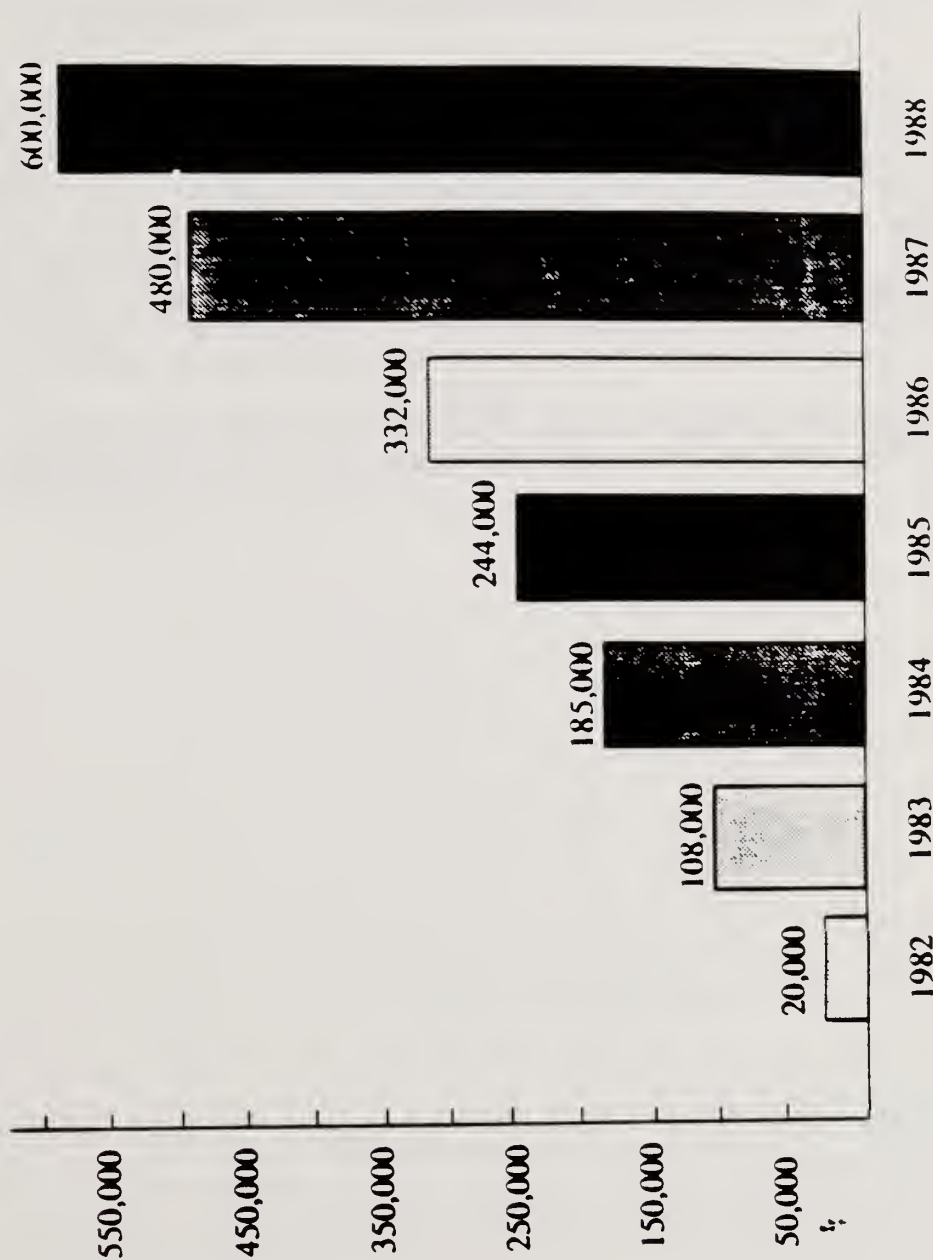
Source MBTA





Figure 10

# Hingham/Boston Commuter Ferry Annual Ridership 1983-1988



Annual commuter ferry ridership has increased from 20,000 in 1982 to 600,000 in 1988 — that's up a whopping 2900%!!  
Can this successful approach work as well on the North Shore where over 18,800 daily vehicle trips to Boston originate?

Source: MBTA Marine Transit, C. Papazian January 1987





Directorate of the MBTA, "The potential daily ridership along this corridor is approximately 100,000 people, the equivalent of ridership on the Orange Line. Likely short-term implementation measures may include bus improvements and transportation system management (TSM) strategies, including signal coordination and retiming, bus stop relocation, and lane re-striping. Said Calcaterra, "Given its realm of study this is a "mini-regional" plan. Ideally, a comprehensive regional plan to address circumferential transit needs is required. "During the next century we may see the introduction of a fixed rail circumferential system with light rail or Blue Line type cars, or vehicles that travel both on rail and roadways," says Calcaterra.

Land use planning which supports walking and transit is badly needed. Dorothea Hass, President of Boston Affiliates, a firm specializing in pedestrian access, estimates that 85 percent of people would walk to work or to a transit stop if these locations were within a 1/2 mile radius of their origin. Hass notes that more than 200,000 people walk to work in the metropolitan Boston region--more people than take the bus. Walking and bicycling are regarded as the most environmentally sound modes of transport. Given a diminishing air quality condition in the Boston area, strategies which encourage environmentally sound commuting modes are key.

MAPC supports the efforts of the MBTA and challenges the authority to increase system-wide transit ridership by 25 percent in five years, reducing the demand.



Challenge #5: Consider development proposals that will allow communities to work together to change zoning and land use patterns to reduce auto demand

MAPC, through planning and zoning practices, will explore land use patterns which will reduce travel demand. In his remarks, Jim Walsh emphasized that transportation planning and land use planning be formulated concurrently since travel demand arises from a given land use. As we look to future, it is essential that we pay careful attention to the location, size, and make-up of proposed developments and the ability of existing transportation infrastructure to accommodate projected demands.

Local officials can and do play a primary role in the future growth of their communities. Endowed with the power to accept or reject proposed developments, what criteria should be used to examine development proposals? Should development be directed along corridors where public transit is offered and/or where local roads can best withstand traffic? Furthermore, should we re-examine the configuration of suburban employment centers as high density, mixed-use suburban workplaces with nearby affordable housing?

"As our suburbs continue to generate more jobs, developers should be challenged to plan new development to encourage transit use," says Dick Doyle. This is not easily accomplished given that suburban employment densities are not great enough at this point to support mass transit, but are sufficient to generate heavy automobile traffic.

Site development plans should stress convenient access for vans and buses to the site, suggests Anne Fanton. She laments that frequently transit and ridesharing are afterthoughts.

Designs of suburban workplaces contribute to worsening suburban congestion. In general, it has been the low density, single-use, and non-integrated character of suburban developments combined with plentiful free parking that has led to greater automobile dependence.

At "The Commute" Forum, Fanton presented a number of land use/development guidelines for improving pedestrian and multi-passenger vehicle access. These included building placement and orientation on site, distance between buildings, sidewalk connections, bus and van circulation and shelters, and preferential parking.

The Executive Office of Environmental Affairs (EOEA) has included public transit as a mitigation measure in its new Environmental Impact Report (EIR) guidelines for use in all traffic impact reports. This recommendation along with UMTA's Suburban Mobility Program, a national effort to encourage commuting options, can enhance the potential for reduced trip-making in the future.



Dick Doyle challenged developers to plan new development so that public transit will be encouraged--not discouraged. He pointed out that locating activities such as child care, a bank, or a restaurant, near work locations, can alleviate auto use during non-peak periods. By providing on site activities, which employees would otherwise drive to during their lunch hour or after work, a convenience is created as well as an incentive not to drive. With these kinds of options, workers can plan their activities to make fewer and shorter work trips.

Cheryl Soon, Deputy Director of EOTC, believes that the success of suburban mass transit is linked to the development of transportation centers. With both strategies, the commuter's work trip can be shortened.

Essentially, a transportation center is a park-and-ride facility which provides commuters with the option of changing to at least one alternative mode of transport (e.g. from car to van/pool, commuter rail, rapid transit, express bus).

More sophisticated centers are transportation hubs. These offer increased flexibility, i.e. the opportunity for multi-modal transfers (with ample parking) and a variety of other consumer-related activities or life services. When renovations to South Station are complete, the facility will boast links to bus, train and rapid transit, and parking to accommodate 600 cars - a transportation center in a grand sense, reminiscent of the Boston of the 1920s.

Linking transit modes can encourage commuters to take other forms of multi-occupancy transit. Moreover, the clustering of services -- such as a convenience store, dry cleaners, video stores, a day care service, athletic club, restaurant, etc., can shorten one's work trip and reduce the total traffic on the streets especially during peak hours.

The Executive Office of Transportation and Construction is actively exploring this new transportation concept. Cheryl Soon revealed that that state has identified six suburban sites, two of which are in Framingham and Weston, where transportation centers could work. An important criterion in this site selection process is the center's proximity to major roadways and transit lines. Located near the intersection of Route 9 and the Massachusetts Turnpike, the Framingham site would offer many amenities: an express bus to Logan, already in place; commuter bus to Boston, retail and commercial businesses along Route 9 and at Shoppers World; and ample parking--all spelling commuter convenience.

Another site, in Weston, located where Route 128 meets the Massachusetts Turnpike, also has the potential to become a multi-modal transportation facility. An abandoned stretch of railroad right-of-way there could become a link to commuter rail.

Forge Park, a 3.5 million square foot Industrial Park located at the intersection of Routes 495 and 140 in Franklin is a good example of a simple regional transportation center created by a public/private partnership. National Development Associates, Inc., donated eight acres of land to the MBTA for the design of a new commuter rail station at the entrance to Forge Park. Phase 1, which provides roughly 350 fringe parking spaces, is complete. The MBTA reports that since the beginning





of service in June 1988, the number of riders boarding at Forge Park has tripled. Phase 2 will add roughly 380 more commuter parking spaces, and a new station where tickets, doughnuts, coffee, newspapers, snacks etc. can be bought. In addition to office, research and development, light manufacturing, and commercial enterprises, the park boasts a YMCA and will soon house a major hotel, day care facilities and a fitness center. Moreover, 40 acres of the total 360, are zoned for residential uses, making this a superb example of a mixed-use development.

Beneficiaries of this project will include Franklin residents, regional commuters to Boston who previously faced a commuter parking supply shortage, and Boston residents who "reverse commute" to Forge Park to work.

In addition to land donations to the MBTA and the YMCA, National Development Associates, Inc., has agreed to finance the relocation of Route 140--roughly a \$2 million outlay. Relocating Route 140 will eliminate a dangerous roadway and route heavy traffic away from residential areas. Forge Park is heralded as an exemplary public/private partnership.



Challenge #6: If there is going to be a gasoline tax, revenue should be reserved for transportation improvements.

The MAPC Executive Committee has gone on record to suggest any increase to the gas tax continue to be reserved for transportation improvements, and that a major portion of the increase be used to increase Chapter 90 funds to cities and towns to improve local streets and roads. Representative Suzanne Bump (D-Braintree), vice chairman of the legislative transportation committee, echoed this sentiment, underscoring the reality that state appropriations to increase capacity and improve deteriorating roads are scarce.

Participants polled at "The Commute" Forum revealed that a majority support an increase to the gasoline tax.

Although regional transportation in the US will continue to be highly dependent on highways, funds to solve our present mobility problems are limited. In fact, federal funding for transportation projects for the entire state of Massachusetts does not come close to meeting the needs of the MAPC region alone.

The question of "who will pay?" permeated virtually every panel discussion. Given both federal and state budgetary constraints and reduced aid to cities and towns, new funding sources must be identified and transportation improvement projects prioritized. Said Dick Doyle, "We must face the fact that there are fewer dollars available." State and local officials must develop a transportation plan that sets priorities for these limited federal highway and transit monies. Prioritization is key; whether we are talking about highway, local roads, or suburban transit alternatives. "We must make available resources go farther than ever before," implored Jim Walsh, Division Administrator of the Federal Highway Administration.

The state also needs to develop a process that will allocate funds more efficiently. Said Bruce Campbell, "a statewide process of prioritizing would be too broad: regional planning agencies are in the best position to manage the prioritization of transportation projects."

Although highway construction to increase capacity is not a feasible solution, timely maintenance of local roads is essential to ensure travel ease. Unless we pay attention to those roads which are in fairly good condition, our regional roadways will continue to deteriorate.

Ironically, the current state funding mechanism for local road improvements discourages routine maintenance. Chapter 90 reimburses communities for substantial maintenance, such as complete road rehabilitation, but not for routine maintenance.



If current spending continues at present levels, almost 80 percent of locally-maintained roads in the MAPC region will be in poor condition within 30 years. To restore roads within the 101-community region to "reasonable condition," MAPC estimates that \$113 million is needed annually for the next ten years. Alternatively, an investment of \$143 million per year for 10 years could improve all roads to excellent condition. Thereafter, the cost to maintain the region's highways would be approximately \$10 million annually.



## Conclusions

MAPC urges both the private and public sectors to take an active role in the future of our region. "The Commute" Forum steering committee framed six challenges which MAPC intends to meet and the following work programs demonstrate our commitment:

1. A Suburban Mobility Conference - MAPC has been asked by the Urban Mass Transportation Administration to co-sponsor a conference to focus on suburb-to-suburb commuting. This follow-up to "The Commute" Forum will serve to galvanize public and private sector efforts to establish a transportation management organization (TMO) in the North Suburban and Hanscom Area Towns Study (HATS) areas (i.e. the fifteen towns along Route 128 between Route 2 and Route 1) of the MAPC region. Reducing vehicles miles traveled and providing transit opportunities to the inter-suburban commuter, the leading travel pattern in our region today, is a challenge requiring concerted efforts.
2. Commuter Parking - MAPC is expecting a specific grant from UMTA to continue previous work assessing the shortage of commuter parking in the region. An MAPC study documenting regionwide supply and demand conditions will be published and a steering committee will be formed to plan a regional commuter parking forum. It is intended that this forum will give rise to a regional task force which will devise a framework to balance the local and regional benefits and costs of providing commuter parking.
3. Establishing transportation priorities on a subregional level - MAPC has begun work prioritizing both highway and transit projects for the nine-town MetroWest Growth Management Committee. Having already initiated such a process for the North Shore Transportation Task Force, MAPC is also beginning this effort for the SouthWest Advisory Planning (SWAP) Committee and the North Suburban Planning Council, two of MAPC's newest subregions. Prioritization will yield a ranking system to ensure that the most critical projects are funded.
4. MetroPlan 2000 - MAPC's regional development plan is in its third and final year. Seven policy committees, one of which is transportation, have been created and action agendas are presently being formulated. An important criterion for future development will be the availability of transportation infrastructure, particularly public transit. Scrupulous land use decisions, made by community officials, are important components to regional mobility.







